

THE JOURNAL
OF
The Madras Agricultural Students'
Union.

Vol. III.

December 1915.

No. 12.

N. B.-Contributors are requested to send in their contributions written legibly in ink on one side of the paper only.—Editor.

Paddy Breeding Station.

The new Paddy Breeding Station occupies an area of $13\frac{1}{2}$ acres about half a mile to the west of the Farm wet land. The area is a compact block almost entirely surrounded by deep channels. It is hoped that an additional field of $2\frac{1}{2}$ acres will be acquired in the near future and this will give 15 acres of cultivable land entirely self contained with regard to water supply and drainage.

The land is of good even quality throughout and contains no saline or ill-drained patches. The plots over most of the area are very regularly rectangular and of convenient size; thus the land is specially suitable for experimental work. There are two good wells which might

be useful for raising early seedlings or helping out a late crop at the end of the season.

Possession was obtained only just before the season began so there was little time for laying out the station. Visitors must therefore overlook any untidiness of roads, etc., that is noticeable. A small field laboratory and maistry's quarters have already been built and two more quarters are to follow.

The Station is devoted entirely to experimental work connected with the raising of improved strains of paddy by selection and cross breeding.

This year's crop consists mainly of material for studying the method of inheritance of all the various characters wherein the numberless varieties of paddy differ from each other. Some of these characters are of direct economic importance; e. g., duration, habit of plant, size and shape of grain, colour of rice etc. Other varietal characters, such as the colour of various parts of the plant, awning, size of outer sterile glumes, etc., are of considerable scientific interest and incidentally of economic interest in that a knowledge of their behaviour facilitates breeding work. In addition to definite varietal characters there are others in which plants of the same variety often differ from each other. Of these, 'tillering power' may be noted as a character of great economic importance.

Though the Station is some distance from the College and the road is generally abominably muddy, any one paying a visit would be amply repaid by the amount of interesting material to be seen.

A collection of about one hundred different varieties, growing side by side, illustrates the great variation of which the paddy plant is capable. It also furnishes striking evidence of what has been done during past centuries by the Indian ryot who is responsible, in all probability, for the establishment of these varieties by means of selection. It is easy to see how vast are the possibilities of building up new strains, specially adapted to different uses or circumstances, when such a wealth of material exists.

The most interesting lots however are those derived from parents which were impure for one or more characters last year. These lots are now splitting and giving Mendelian ratios for the different characters. Some lots, where only one or two simple factors are concerned, are quite simple and easily understood. Others are so complex that it would be hopeless to try to make out anything from them had not the genius of Mendel pointed out the prime necessity of studying one character at a time. By so doing it is now possible to reduce to a definite order, easily understood, lots which at first sight appear hopelessly confused and complicated.

From the crops of last year and this, it has been possible to work out the method of inheritance of a very large number of characters. Information of great scientific interest has been obtained especially with regard to complex cases where there is interaction and interference between separate characters. There are still a number of characters which are not yet understood and

still more which have not been studied. The whole time of ten persons is spent on the work but even so there is much that has to be passed over for want of time.

Unfortunately most of the characters of direct economic importance are of a complicated nature. They will be thoroughly understood only after much study, but there is every prospect that the final result will much more than repay all the trouble taken.

F. R. PARNELL,
Govt. Economic Botanist.

Nendrum Plantains (*Musa sapientum*).

The cultivation of Nendram is confined to the West Coast viz., Malabar, Cochin and Travancore. It is otherwise known as 'Eathan Kaya' (Picotta plantain) indicative of its large requirements of water, since picotta is the oldest known water lift here. On account of the attention that one has to bestow on the crop the area which each ryot puts under it is confined to a few cents for which again picotta is a convenient water lift. When the owner of the plantation is the labourer as well, it is for him a necessity to set up a picotta as the most preferable water lift for irrigation. Therefore the cultivation of Nendram Plantains, over a large area of the West coast, is closely associated with the picotta or Eatham: hence the name. 'Onavazha' a name by which it is known over a large portion of North Malabar explains the idea that it takes a prominent place for the Onam feast of the Malabar people. It is considered a necessary fruit of consumption during the Onam days and can be found in each and every house of a Malayalee whether poor or rich. Almost every ryot in the southern taluks plants at least a few plants for his home consumption, if not with a view to sell the surplus at a good profit at the Onam Fairs where sometimes fancy prices are offered for properly matured fruits of big size. In many lease deeds in certain parts